



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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Michael O. Leavitt
Governor

Lowell P. Braxton
Division Director

October 2, 1998

Tom Miller
Cargill Salt
1428 James Point Road
Lake Point, Utah 84074

Re: Second Review of Large Mining Operations Notice Of Intention, Cargill Salt, Timpie Solar Ponds, M/045/030, Tooele County, Utah

Dear Mr. Miller:

The Division has completed its review of Mr. Danny Bauer's March 2, 1998 letter. His letter was sent in response to our January 9, 1998 letter requesting that Cargill Salt complete the Timpie Solar Ponds Large Mine permitting process which was originally commenced by AKZO Nobel Salt, Inc. Please accept our apology for the unforeseen delay in responding to Mr. Bauer's letter. On May 6, 1997, DOGM last forwarded a copy of the remaining technical review deficiencies to AKZO which were originally sent on December 2, 1994.

The March 3, 1998 document titled, "Status of Large Mining Operation Notice of Intent" addresses the remaining technical concerns outlined in the Division's December 2, 1994 review document. In general, these technical concerns involved a variance request for a proposed Post Mining Land Use for the roads and buildings, and the reclamation of Plot C.

The following determinations were made after a May 12, 1998 field visit to the plant site and a subsequent May 21, 1998 inspection of an abandoned salt operation located North of Tooele. A copy of these inspection documents are attached to this letter for your reference.

1. "Most of the roads in plot B would have a post mine use, provided the facilities in plot B have a post mine use. The western most roads in plot B which access the pump station would not seem to have a post mine use after reclamation of the site." "Post mine use Plots A & B..." (DOGM comments from 12/2/94 letter).

Cargill's March 2, 1998 reply stated that if the facilities are allowed to remain unreclaimed based on the Tooele County Engineer determination that this is a viable land use (i.e. salt operation), then the pump station access road will be needed as well.

Division formal determination: It is the Division's opinion that the post mining land use of these facilities and access road remains uncertain at this time. No one has stepped forward and

indicated their willingness to assume ownership and continued responsibility for the processing facilities and access roads at this time. This variance request is based on the assumption that this post mining land use will occur. It is the Division's position that we cannot approve of this variance request without confirmation of some form of formal agreement or contract that guarantees that the buildings/processing facilities and access road(s) will continue to be used and maintained after mining operations cease. Until such an agreement is reached, reclamation bonding for the demolition of the buildings and reclamation of the affected lands and road(s) will be required.

2. "Division recommends a 12 inch depth of soil in Plot C...." (DOGM comments from 12/2/94 letter).

Cargill believes that mechanically removing the salt from the area in Plot C after mining and then flushing the area using the existing water system will make the area better suited for replanting and reclamation.

The Division inspected the site May 12, 1998 and discussed the use of test plots to verify the assumptions outlined above. The Division also inspected an abandoned salt complex with a rinsed and reclaimed salt storage area to survey plant species and the condition of the buildings. The following conclusions were reached:

Some desirable species have been established on the old pad area, (alfalfa, foxtail barley and tall wheatgrass) however, most of the vegetation observed was comprised of weedy species. Although undesirable, the weedy species do indicate that salt levels have been greatly reduced, and that over time, it may be possible to establish vegetation without importing topsoil. Several questions remain unanswered that need to be resolved. Establishment of a test plot (or demonstration area) at the Cargill site may also be warranted to answer the following questions and justify approval of this variance request.

- What treatments were used?
- How long has it been since the last treatment?
- When was the area seeded?
- What are the salt levels in the pad?
- How much (fresh) water was needed to leach and how long did it take to wash sufficient salt out of the soil to establish desirable vegetation?
- What species were used in the reclamation seed mix?

These questions could be addressed in the establishment of a test plot demonstration area at the Cargill plant site. If the test plot proves successful in establishing a desirable vegetation cover, the Division will accept this alternative treatment rather than requiring the operator to import topsoil.

Please provide a current version of the drawing titled "Salt Washing Plant & Related Facilities."

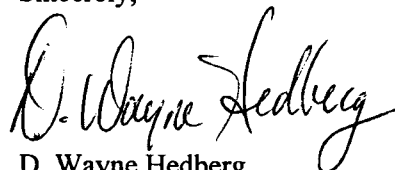
Page 3
Tom Miller
M/045/030
October 2, 1998

Please verify the acreage breakdown for each of the plots A-F (i.e. natural area acreage, road acreage, building area, etc.) shown on this drawing. The version of this drawing received by the Division on February 28, 1994, included more structures than the previous version received April 30, 1993. However, the disturbed acreage breakdown for each plot on the newer drawing was identical to the breakdown in the old version.

The Division has prepared a revised draft of the previous reclamation cost estimate for your review (copy attached). This draft estimate is lacking information regarding the estimated costs for demolition or removal of structures and facilities in Plots A and B. The revised draft includes unit costs commonly used by the Division for these tasks; however, the quantities associated with the structures in these plots are unknown. Please provide the missing information shown by boxes on the draft estimate or provide an estimate of third party costs for demolition and removal of all structures located within Plots A and B. Please provide written descriptions of all structures within these two plots (i.e., physical dimensions, construction materials used, foundations, etc.). The revised draft estimate does not include costs for haulage of topsoil from a borrow area. The draft estimate includes unit costs commonly used by the Division for these tasks assuming borrow Site B is used. Cargill may accept these unit costs or provide a third party cost estimate for loading, hauling and spreading the borrowed topsoil. The reclamation cost estimate will be revised after this additional information has been received by the Division. Please contact Tony Gallegos at (801) 538-5267 if you have any questions regarding the cost estimate. (AAG)

The Division cannot publish tentative approval of your Large Mining Notice until these outstanding technical issues are resolved. Once these issues are resolved we will publish tentative approval which starts a 30-day public comment period. Assuming no substantive public comments are received during this period, and the appropriate bond is posted, our final approval of your notice will follow. We thank you for your cooperation and continued patience as we finalize this permitting process. If you have any questions or wish to arrange a meeting to discuss these remaining technical concerns, please feel free to call me at (801) 538-5286, or Tom Munson at (801) 538-5321.

Sincerely,



D. Wayne Hedberg
Permit Supervisor
Minerals Reclamation Program

jb
Attachment: Division draft reclamation estimate of 9/1/98
8/11/98 inspection memo
cc: Danny Bauer, Cargill Salt
Tom Munson, DOGM
M045030.let

1	RECLAMATION SURETY ESTIMATE				DRAFT	
2	Cargill Incorporated				last revision	09/01/98
3	Timpie Solar Ponds				filename m45-30.wb2	page "ESTIMATE"
4	M/045/030				Tooele County	
5	Prepared by Utah State Division of Oil, Gas & Mining					
6	-North dike(s) to remain to protect I-80 from flooding - POSTMINE USE					
7	-Dikes protecting Timpie Waterfowl Area to remain in place - POSTMINE USE					
8	-All other dikes will be allowed to erode naturally without regrading					
9	-All wooden gates in dikes to be left open & allowed to erode naturally					
10	-Two concrete gates in the dike system to be removed					
11	-Vehicle maintenance facility, roads & structures in Plot A to be removed & reclaimed				3.2 acres	
12	-Warehouse, offices, & access roads in Plot B to be removed & reclaimed				6.1 acres	
13	-Stacker conveyor, salt stockpiles & ramp in Plot C to be removed & reclaimed				23.6 acres	
14	-Salt washing plant & ramps in Plot D to be removed & reclaimed				4.8 acres	
15	-Roads & ramp in Plot F to be reclaimed by regrading & reseeding				1.6 acres	
16	-UP&L Substation in Plot E is NOT the responsibility of this operator(0.9 acres)				0.0 acres	
17	-Disturbed acreage for facilities site (pond system & dikes not included) =				39.3 acres	
18	-ASSUME soil needed from borrow site B to cover Plot C & F =				25.2 acre	
19	-Volume of topoil needed from borrow site B (12" cover) =				40,656 CY	
20	-ASSUME soil at borrow areas is 24" deep, then borrow acreage needed =				12.6 acres	
21	-Total disturbance to be reclaimed (facilities site + borrow area) =				51.9 acres	
22	-Refer to map received 2/28/94 for "PLOT" descriptions — NEED UPDATED MAP					
23	-Estimated total disturbed area for this mine =				51.9 acres	
24	Activity	Quantity	Units	\$/unit	\$	Note
25	SHADED PORTION IS FROM 11/23/94 DOGM DRAFT ESTIMATE FOR AKZO					
26	open all gates	24	gates	17	408	(1)
27	remove concrete gates	2	gates	700	1,400	(1)
28	demo/remove wash plant - Plot D	1	sum	20,500	20,500	(1)
29	demo/remove stacker conveyor, rail & pipeline	1	sum	22,800	22,800	(1)
30	demo & remove salt stockpile - Plot C	1	sum	26,800	26,800	(1)
31						
32	Regrade features in Plot F	1.6	acre	349	558	(2)
33						
34	Demolition of buildings & facilities - Plot A & B	INCOMPLETE	0 CF	0.23	0	(3)
35	Debris & equipment removal - trucking	INCOMPLETE	0 trips	48	0	(4)
36	Debris & equipment removal - dump fees	INCOMPLETE	0 CY	6	0	(5)
37	Debris & equipment removal - FE loader	INCOMPLETE	0 hours	166	0	(6)
38	Demolition & debris removal - general labor	INCOMPLETE	0 hours	15	0	(7)
39	Regrading facilities areas - 50% of (Plot A + B)	9.3	acre	349	3,246	(2)
40						
41	Topsoil replacement - truck haulage	INCOMPLETE	40,656 CY	0.00	0	(8)
42	Topsoil replacement - FE loader	INCOMPLETE	40,656 CY	0.00	0	(9)
43	Topsoil regrading - dozer	INCOMPLETE	40,656 CY	0.00	0	(2)
44						
45	Drill seeding (~13 lb/acre) - all facilities reclaimed area	39.3	acre	150	5,895	(10)
46	Drill seeding (~13 lb/acre) - borrow area	12.6	acre	150	1,890	(10)
47						
48	General site cleanup & trash removal - 50% facilities area	19.7	acre	50	983	(11)
49						
50	Equipment mobilization	4	equip	1,000	4,000	(12)
51						
52	Reclamation Supervision	7	days	356	2,492	(13)
53	Subtotal				90,972	
54	10% Contingency				9,097	
55	Subtotal				\$100,069	
56	Escalate for 5 years at 2.24% per yr				11,721	
57	Total				\$111,790	
58	Rounded surety amount in yr 2003-\$				\$111,800	
59	Average cost per disturbed acre =				\$2,154	DRAFT

58

Rounded surety amount in yr 2003-\$

\$111,800

59

Average cost per disturbed acre =

\$2,154

DRAFT

RECLAMATION SURETY ESTIMATE

DRAFT

Cargill Incorporated

last revision

09/01/98*Timpie Solar Ponds*

filename m45-30.wb2

page "ESTIMATE"

*M/045/030**Tooele County*

Prepared by Utah State Division of Oil, Gas & Mining

- (1) Unit costs based on Akzo letter of 12/2/91
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- (2) Means 1997 & Rental Rate Blue Book 4/97: Cat D9N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (3) Means Heavy Construction Cost Data 1997, 020-604-0100, mixture of bldg. types, average, excluding dump fees
- (4) Means 1997, 020-620-5100, \$0.48/mile for >8CY truck; assumed 100 miles round trip
- (5) Means 1997, 020-612-0320, avg, bldg construction mtl's
- (6) Rental Rate Blue Book 4/96, Cat 988B, 7CY, & Means 1997, Crew B-10U
- (7) DOGM assumed wage for unskilled general labor
- (2) Means 1997 & Rental Rate Blue Book 4/97: Cat D9N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (8) Means 1998 022-266-1250: hauling excavated or borrow material, 20 CY dump trailer, 10 mile round trip, no loading included = \$7.8
- (9) DOGM rough estimate using 988 wheel loader = \$0.40/CY
- (2) Means 1997 & Rental Rate Blue Book 4/97: Cat D9N, U, mtl 2550 lb/CY, 50 ft push, 1 ft depth
- (10) DOGM general estimate - drill seeding
- (10) DOGM general estimate - drill seeding
- (11) DOGM general estimate - site cleanup & trash removal
- (12) DOGM general estimate - equipment mobilization
- (13) Means 1997, 010-036-0180, project manager, minimum \$1780/wk



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Michael O. Leavitt
Governor

Lowell P. Braxton
Division Director

August 11, 1998

TO: Minerals File

FROM: Tom Munson, Reclamation Hydrologist *Tm*

RE: Site Inspection, Cargill Salt, Timpie Solar Ponds Mine, M/045/030, Tooele County, Utah

Date of Inspection: May 12, 1998

Time of Inspection: 9:00 AM - 10:00 AM

Conditions: Sunny

Participants: Boyd White, Cargill Salt; Wayne Hedberg, Tony Gallegos, Tom Munson, and Lynn Kunzler, DOGM

Purpose of Inspection:

To inspect the site in regards to requests for variances.

We arrived on site and asked to investigate the area associated with storage the salt materials and the potential reclamation problems associated with this area. An area south and east of the main storage area was potentially selected as a test plot to determine the ability of an area to grow salt tolerant species of plants following mining without the aid of topsoil. We discussed the idea of the people at the mine submitting a test plot plan which would be coordinated with the Division. The purpose of using a testplot was to determine if the topsoil borrow areas were necessary to reclaim the salt storage areas. The operator suggested that we visit an abandoned salt operation just North of the Tooele exit off of I - 80.

The next issue discussed onsite was the post mining land use of Plots A and B. We stated that we would have to investigate this based on need for the facilities and the condition of the site following mining. We stated that we had not made a decision on this issue yet and would hopefully get back to them with some sort of determination as soon as possible given our work load.

On May 21, 1998, Lynn Kunzler and myself inspected the old salt operation area north of Tooele. During the inspection we noted several desirable species were growing along with a major weed community. These species included alfalfa, foxtail barley and tall wheatgrass. Most of the vegetation observed was comprised of weedy species. Although undesirable, the weedy species do indicate that salt levels have been greatly reduced, and that over time, it may be possible to establish vegetation without importing topsoil. Vegetation cover was approximately 10-15% with the desirable vegetation about 1-2%. There remains some unanswered questions that need to be resolved to fully evaluate revegetation success:

- ◆ What treatments were used?
- ◆ How long has it been since the last treatment?
- ◆ When was the area seeded?
- ◆ What are the salt levels in the pad?
- ◆ How much (fresh) water was needed to leach and how long did it take to wash sufficient salt out of the soil to establish desirable vegetation.
- ◆ What species were used in the reclamation seed mix?